

Z88 EPROM

December 1991

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Club Addresses

All articles for **Z88 EPROM** and any membership matters (except Software Library) should be sent to:

**ROY WOODWARD
Z88 USERS' CLUB
68 WELLINGTON STREET
LONG EATON
NOTTINGHAM
NG10 4NG**

All requests for software from the Club Software Library, (**but not** special offers), items for inclusion in the Library, and EPROMs for erasure should be sent to:

**IAN BRABY
THE SOFTWARE LIBRARY
Z88 USERS' CLUB
3/8 JENNER ROAD
GUILDFORD
SURREY
GU1 3PL**

Please note that the **Library** address is the one to use when sending for a list of Library programs - this list is **not** available from the main Club address. Be sure to enclose £1 plus a SAE for the list. Also note that this list now includes the CLI Library List.

CLIs for inclusion in the Software Library should be sent to:

**MICHAEL HEY
18 WOODSIDE ROAD
SANDIACRE
NOTTINGHAM
NG10 5GP**

ALWAYS include your Membership Number with any correspondence. This is not just to be awkward - now the Club is large it can be very time-consuming searching the database for a member's number. Your number is printed on the address label of each issue of **Z88 EPROM**. Please be sure to enclose a stamped-addressed envelope with anything needing a reply.

Editorial

No excuses this time. This issue of **Z88 EPROM** is late simply because I did not have enough contributions to complete a magazine. I was basically waiting until I had enough good copy to use before I could send it off to the printers.

The only way to get back on the right track, and send out subsequent issues on time, is for me to receive a lot more contributions from you than I am at present. Come on - this is **your** magazine, and as always I am more than willing to publish your contributions, whatever form they might take.

Get those Z88's out, and **GET WRITING!** Then send those contributions to me on either EPROM card or PC disk (any size). That way I would hope to publish the next edition of the magazine very soon, in the hope that I can catch up!

Two exciting new announcements this issue. First, a new, better, cheaper version of the RangerDisk Z88 disk drive, and second, the provision of credit card facilities.

RangerDisk 2 will only be available directly from the Users' Club, it offers **TWICE** the capacity of the original version (1.44M per disk), and the price is a pretty good £259.00 inclusive. More about that in the Newslines section.

It has been nice to see all of you at the recent All Formats Computer Fairs. These Fairs have proliferated recently, with the organisers adding a further three new venues to regionalise the exhibitions even further. The venues now cover London, Birmingham, Leeds, Bristol, Glasgow, Donington Park, Haydock Park and Washington. I intend to cover most of these shows except Glasgow (sorry, but it is a bit too far!). See Diary Dates for full details. You will also have found a "£1.00 OFF" voucher tucked inside this issue, which will get you into any of the All Formats shows for £3.00 instead of the normal £4.00.

Yet another Mega-announcement - I have at last secured Credit Card facilities for the Club, so you can now pay for any of the Long Eaton-based Club facilities using either Visa or Access/Mastercard. This includes membership, spares, upgrades, as well as the new disk drive. Please note that **excluded** is anything to do with the Software and Application Libraries.

In the past, as many of you will know, I have always closely guarded my telephone number, on the basis that if it were generally available, I would spend most of my time on the 'phone, and have little time for the other things I have to do. The credit card facility has put a slightly different light on this issue, since many people like to order goods by telephone using credit cards, and get faster delivery than when using the mail. I have therefore decided to publish a telephone number that can be used to place credit card orders. Please note that this is **not a technical helpline**, and although I will often answer the 'phone myself, you are just as likely to get my wife or an answering machine, neither of which have any technical knowledge about the Z88!

So please do not use the telephone number for any technical queries, I simply do not have the time resources to do this. If you have technical queries, either write to one of our Helpliners, or bring them along to one of the Workshop Days.

I almost forgot - the telephone number (either fax or voice) for Credit Card Orders is **0602 726307**.

Newslines

RangerDisk 2

Ranger Computers have launched a new version of their popular RangerDisk disk drive system for the Z88. RangerDisk 2 offers twice the capacity of the earlier model, in a smaller package size, and at considerably lower cost. In an exclusive distribution agreement, RangerDisk 2 for the Z88 will only be available from the Z88 Users' Club, not from Ranger themselves.

RangerDisk 2 gives 1.44M of storage per high density disk, and the drive is still able to format, read and write 720k double density disks allowing compatibility with the old model. Disks written with RangerDisk 2 are fully MS-DOS compatible, including full support for sub-directories. This allows the Z88 user to swap data with PC compatibles without resorting to cumbersome transfer software and serial links which then tie up the host PC.

RangerDisk 2 is supplied with its own AC adapter, lead to link to the Z88, DiskFiler software on EPROM, and a comprehensive user guide. I will also send members who buy the system two 1.44M

floppy disks which contain the bulk of the files from the Club Software Library.

Whereas the old 720k version of RangerDisk has been selling for a whopping £440.00 including VAT, the Users' Club price for RangerDisk 2 is just £259.00 including VAT and UK delivery.

It is also possible to link RangerDisk 2 to your PC via the serial port, giving your PC an extra (or perhaps only) 3.5" floppy drive. The PC Driver Pack is available for £35.25, which includes VAT and UK delivery. This pack includes software for the PC driver and a serial cable to link your drive to the PC. Please specify disk size (3.5" or 5.25") and serial connector (9 pin or 25 pin) when ordering.

A full review of the original RangerDisk system may be found in Z88 EPROM Vol.3 No.7, December 1989. RangerDisk 2 offers the following extra facilities: 1.44M capacity; powered by AC adapter; full support for directories.

BETT '92

CCL are exhibiting at the forthcoming British Education and Training Technology exhibition or BETT '92 for short! The show will be held at the Barbican Exhibition Centre in London between January 22-25 inclusive.

BETT is **the** show for anyone involved in education - admission is free but is restricted to over 18's, and the event is widely publicised in education and training magazines. This will be the first time that CCL have shown the Z88 at BETT, and represents the start of an attempt to push the machine into the relatively un-tapped education sector. I will be helping out on the CCL stand for the duration of the show, and hope to give you a report on CCL's reception in the next issue.

Rakewell Competition

At the beginning of January I made a visit to see Vic Gerhardt of Rakewell Ltd, in order to draw out the winning questionnaire from their recent competition to win a Diconix ink-jet printer.

The winner was Mr DB Roberts of Coulsden, Surrey.

There were over 250 entries in all, and everyone who entered received a personal reply from Vic. When I visited him, Vic had not

started the full analysis of the replies, but several aspects of the replies did surprise him:

"I had assumed that the Z88 was used in the main as a second computer", said Vic. "Not so, many people use the Z88 as their only computer. Only two people didn't want to give their ages, and only one person didn't want to disclose their name or address. Good job he/she didn't win!

The major dislike was the screen size and some people didn't know what the programs (like Spellmaster and SqueeZ-88) can do. Perhaps the Users' Club should produce a booklet describing them all. Many thanks for all the kind remarks about Rakewell."

Diary Dates

The All Formats Computer Fairs are proliferating! Below is a list of Fair dates during February and March. For full details of the venues see either the £1.00 OFF voucher enclosed with this issue, or the All Formats advertisement elsewhere in this magazine.

February

- 1st - East Midlands
- 2nd - Haydock Park
- 8th - Washington, Tyne & Wear
- 23rd - Birmingham

March

- 8th - Glasgow
- 14th - London
- 15th - Bristol
- 21st - East Midlands
- 22nd - Leeds

I hope to be at all of the above shows except Glasgow on the 8th March, and Bristol on the 15th March. I look forward to seeing you there.

Exclusively from the Z88 Users' Club:

RangerDisk 2

For the Cambridge Z88

This new version of the established RangerDisk system offers the serious Z88 user fast and reliable data backup. RangerDisk 2 offer twice the capacity of the original RangerDisk, giving 1.44M of storage on each 3.5" High Density floppy disk.

RangerDisk is more than just another add-on floppy drive - because it contains its own MS-DOS floppy disk controller chips, the disk files are fully compatible with any IBM PC or compatible able to read the 3.5" format. This makes for easy data interchange between the unique Cambridge Z88 and any office PC, giving the user the best of both worlds!



Just £259.00



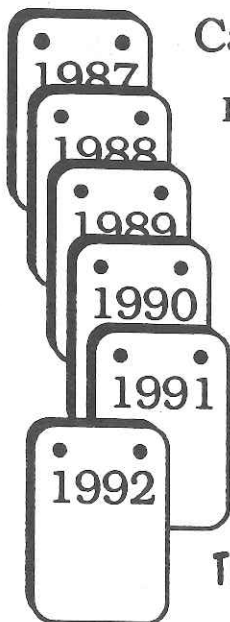
Including VAT @ 17.5% and UK Delivery

Includes Disk Drive, DiskFiler EPROM, AC Adapter, Z88 Cable, Manual. Optional PC Driver Pack - £35.25.

Send payment with order to:

Z88 Users' Club, 68 Wellington Street, Long Eaton, Nottingham, NG10 4NG.

For Credit Card Orders, either write or ring our Credit Card Hotline on 0602 726307 (Voice/Fax) quoting your Card Number, Expiry Date, Card Name & Address and amount to be debited. Please note that RangerDisk 2 for the Z88 is available exclusively from the Club.



Cambridge Z88 Starter Pack

Pack includes:-

Cambridge Z88 Computer
User Manual
128K Ram Pack
Parallel Printer Cable
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Carrying Case
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FEB 23 WEST MIDLANDS ○ NATIONAL MOTORCYCLE MUSEUM, J6, M42.

MARCH 8 SCOTLAND ○ CITY HALL, CANDLERIGGS, GLASGOW.

14 LONDON ○ HORTICULTURAL HALL, GREYCOAT STREET, WESTMINSTER.

15 WEST ○ BRUNEL CENTRE, TEMPLE MEADS, BRISTOL.

21 EAST MIDLANDS ○ DONINGTON PARK, M1, J24.

22 NORTH ○ UNIVERSITY SPORTS CENTRE, CALVERLEY STREET, LEEDS.

APRIL 12 NORTH EAST ○ NORTHUMBRIA CENTRE, WASHINGTON, A194 (M).

26 WEST MIDLANDS ○ NATIONAL MOTORCYCLE MUSEUM, J6, M42.

MAY 16 LONDON ○ HORTICULTURAL HALL, GREYCOAT STREET, WESTMINSTER.

17 WEST ○ BRUNEL CENTRE, TEMPLE MEADS, BRISTOL.

JUNE 7 SCOTLAND ○ CITY HALL, CANDLERIGGS, GLASGOW.

14 NORTH WEST ○ HAYDOCK PARK, J23, M6.



Admission £4. Stands from only £60.00. All Fairs 10 am - 4 pm
Ample Car Parking at all venues.

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The All Formats Computer Fair is owned & organised by Bruce Everiss.

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PipeDream SpellCheck integrates seamlessly with PC PipeDream to help you find your spelling and typing gremlins. Supplied with SpellCheck is a 93000 word master dictionary. You can also create user dictionaries for your own specialised words.

For further information on PipeDream write or telephone for a free brochure. PipeDream is also available for the Acorn Archimedes. PC PipeDream costs £99.00 +VAT. PC SpellCheck costs £43.00 +VAT. Access and VISA orders welcome.

Colton Software
2 Signet Court, Swanns Road, Cambridge CB5 8LA, United Kingdom
Tel. Cambridge (0223) 311881
Fax. Cambridge (0223) 312010

PipeDream
Breaking down the barriers

Helpline

If you have a technical query, write to one of our Helpliners listed below. Please note that you should include a stamped addressed envelope or sufficient return postage for your reply.

CLI Files - Contact Michael Hey by post only at: 18 Woodside Road, Sandiacre, Nottingham. NG10 5GP

Z88 to Amstrad PCW Link - Please write in the first instance to: Mr A West, 16 Southway, Burgess Hill, Sussex. RH15 9ST.

zBASE, CLI and all Wordmongers products except TX and Comms software - Contact Jason Crook (ex of wordmongers) at TPR. J.S.A. Crook, 4TP B SQN, The Royal Hussars (PWO), Swinton Barracks, BFPO 17. I will also write to order in zBASE.

zBASE - Help on commands and programming. I can accept info/programs on paper. EPROM, zTape cassettes or IBM disk. Contact Robin Jarvis, 27 Gloucester Road, Waterlooville, Hants. PO7 7BJ.

Z88 to Amstrad CPC Link - Contact Duncan W. Kennedy at 32 Otterston Grove, Dalgety Bay, Fife. KY11 5PA.

BASIC Programming - Contact Richard Russell at 59 Campbell Road, Gravesend, Kent. DA11 0JZ.

Interfacing Z88 to various hardware - Mac, BBC, PADs, also UNIX and C experience - Contact J.P. Knight Email JANET on jpknight@uk.ac.lut.sun, or snail mail during term time to Room 66, Hazlerigg-Rutland Hall, Loughborough University of Technology, Ashby Road, Loughborough, Leics, LE11 3TZ.

Z88-PCW Link - Using C-Port program. Please contact David Prestage at 47 Knighton Road, Otford, Sevenoaks, Kent. TN14 5LD.

Anything Educational - Please contact Bob Shore, 8 Anchor Close, Hathern, Leics. LE12 5HP. Telephone 0509 842670.

Machine-code Programming - Please contact Richard Smith, 29 Sandhouse Crescent, Scunthorpe, South Humberside, DN16 1JF.

Printer Setups - Please contact David Stewart at 44 Margetts, Hemingford Grey, Huntingdon, Cambs. PE18 9EP. If you have any queries concerning general printer problems, eg. correct use of cables, how to connect up the printer, printer code language,

understanding the information in the printer handbook, etc. please write to David. Notes on Printing, covering the above topics, are available by post from David. Price £3.00 for 30 A4 pages of detailed advice.

File Transfers - Free file transfers to/from most formats (excluding Amiga). 10 files max. and must be Z88 related - no commercial programs copied. Send disk and pre-formatted copy media, with Club Membership and return p&p to: Phasor Video, Elcot Lane, Marlborough, Wilts, SN8 2AZ. Tel: 0672 514451 (2.00-5.00pm Mon-Fri)

Members' Letters

Huw Jacob
Ilford
Essex.

Dear Roy,

I am writing to renew my subscription to Z88 EPROM. In the light of the recent letter from Mr E Jacobs (no relation!) I would like to say how much I enjoy the magazine and the various services available to members through it, such as the Software Library, spares service, applications service/library and upgrades. I think users of the Z88 are very well supported by the Club.

As to the content of the magazine, there must always be a tension between the different needs of the readership, between the needs of beginners and those who have had their computer for some time. Ultimately the content of the magazine depends to a large extent on those of us who read it. If we don't write or contribute we can hardly complain if it doesn't meet our particular needs.

One quick query - I seem to remember reading that Ni-Cd batteries last longer if they are completely exhausted before recharging; do you know if this is so, and if it is how one goes about it?!

(Yes it is true - you are referring to what is known as the "memory effect" of Ni-Cds. You don't need to fully discharge them every time - once every 15-20 cycles will be enough. Simply run them down in a torch until the bulb is quite dim, then recharge them. - Roy.)

Queries, Hints & Tips

Robert Ward (3725)

Can anyone suggest a way in which the Z88 could be made to give consecutive numbers to the paragraphs in a long document? Working as a barrister I use the Z88 to produce advisory documents which can run to 50 pages. Subsequent discussion is helped if the paragraphs are numbered. Paragraphs may be anything from 2 lines to 40 lines long. Numbering as you go along is hopeless, because you may decide to go back and add or delete earlier paragraphs. What is needed is something like the @p@ command for page numbering.

One method I have tried is to start each paragraph with a little-used character such as #, and then when the document is complete use the BSE and BNM commands to skip from paragraph to paragraph inserting the numbers manually. But this is time-consuming. Another disadvantage is that any subsequent alteration to the document might entail repeating the whole process. It would also be necessary to devise some complicated search string as you could no longer search for # which would have been replaced by the numbers.

Another way suggested to me would be to have a column specifically for paragraph numbers and somehow to use expressions to insert the appropriate number. For example IF (B12="3",(a\$1 A11)+1,""). To get this working properly is something I have yet to achieve.

Is it possible to alter the @d@ command so that it will print the date in the form that most people use in letters, i.e. "1st January 1992" and not "Wednesday 1st January 1992"?

Is it possible to change the default settings on the Options Page? I waste a lot of time by having to set the page length and margins afresh for each new document.

One tip that may be useful to owners of the Canon Bubble-Jet printer. This printer is really quite slow. If you wish to print multiple copies of the same document and have a sheet feeder, after the first <>PO and ENTER commands the cursor will not reappear for a while and the Z88 will not appear to respond to commands. However, if you ignore this apparent coldness and go

on pressingg <>PO and ENTER as many times as you need copies, you can then go out for a stroll and come back to find all the work done.

Christian Pearson (4662)

Hints and tips was what your recent correspondent, Mr EF Jacobs, wanted. Here's one.

Messrs Maplin's sell two items which with a couple of Blue Peter ingredients will make you an EPROM eraser at about half the price of the CCL unit. Order a flourescent mini-lantern (catalogue no. ZC11M, £3.95) and the special TUV tube (cat. no. JP43W, £15.95). Replace the ordinary flourescent tube with the special one, leaving off the clear plastic guard, which might absorb UV. Fix the lantern, using the Velcro fasteners supplied, in a cardboard box lined with cooking foil (to maximise reflection) and big enough to allow the EPROM to be fixed with Blu-Tak about two inches away from the middle of the tube. Switch on (don't look at the tube: it is giving out strong ultra-violet light), and close the box lid for 20 minutes. Switch off, and your EPROM will have been erased.

What could be simpler? The total cost is a bit less than half the purpose built item, it doesn't get hot, and can be used as a lantern as well, if the ordinary tube is replaced. True, it doesn't have a safety switch to stop the user from receiving ultra-violet light; but a medical friend tells me that no harm is likely to result unless one stares at the tube for severaal minutes (they are used commercially for killing germs, as well as erasing data, apparently). For those who are still concerned, a pair of UV absorbing sunglasses is a simple precaution.

I've used mine with total success several times now, and find it erases in 15 minutes or so, rather than the 20 recommended for the CCL eraser.

You haven't heard of Maplin's, Mr Jacobs? Their huge catalogues are on sale in WH Smith's, you can order by telephone on 0702 554161 (fax 553935), or write to: Maplin Electronics, PO Box 3, Rayleigh, Essex. SS6 2BR. Post and packing is £1.00, and no I don't work for them or own them!

Jack Lawrie (4635)

I only have one "hate" about the Z88 and that's the keyboard. It has a wonderful 'feel' to it but I cannot bear to use a keyboard which is covered with dust and hairs (not dandruff, that would be the last straw!).

Ever since I got it I have been experimenting with various methods of covering the keys. I've read all the various 'tips' about special fluids, sellotape, blue tack and the rest but these are all cures, not preventatives.

First idea, which I used for many months, was a strip of transparent plastic wrapped all around the keys, tucked under the screen fascia, cut around the slots at the front and sellotaped all round at the back. It worked well, lasted about 30 to 50 hours actual use (depending on the thickness of the sheet) but it took too long to fit.

Next idea was to make a sleeve of the plastic, sliding it up over the front and securing it with an elastic band running around above the top keys. This was an improvement and I used a few of these over the next few months until - ! Some of you may have guessed what happened - my batteries were dead.

My hard Topper is a very good fit and just this once, the plastic sheet was dragged down the sides and put pressure on a key or keys - back to the d.b!

The final solution has arrived, under my hands as I type.

A sheet of plastic, 31 * 11 cm, laid over the keyboard, with a thin elastic band running around the computer just above the top keys. Before fitting the Topper I just turn the sheet over the screen. I have about a dozen sheets in hand (amazing how much of this stuff comes into the house - I've even used freezer bags) and it only takes a few seconds to put one on - a quick rub over and between the keys first with the sticky side of a length of sellotape.

CLUB WORKSHOP DAY SPRING 1992

VENUE: The Stantonbury Campus,
Milton Keynes.

DATE: Saturday 25th April 1992

TIME: Start 10am, End 5pm.

YOUR DAY WITH THE EXPERTS

Provisional line-up includes:

Colton Software

Rakewell

Ranger Computers

Wordmongers

Richard Russell

Cambridge Computer

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The 128k Z88

(Over 80 machines now upgraded)

We can now offer an upgrade for your Z88, replacing the internal 32k RAM chip with a 128k device, giving you an extra 96k of RAM without using any more slots for just **£44.95** inc. VAT and carriage.

This upgrade makes better use of the internal slot 0, and could well free up one of the external slots if you use one or more of these for RAM expansion.

Remove all RAM and EPROM cards and batteries, then send only your Z88, well packed (preferably in its original plastic box), with cheque/P.O. for just **£44.95**. Be sure to use Recorded Delivery or Registered post for your own protection. We cannot be responsible for computers lost in transit.

IMPORTANT NOTES: This upgrade involves opening the machine and working on the circuit board. This work will invalidate any manufacturer's warranty still on the Z88, so unless you accept this do not send the machine for upgrading. Do not send your Z88 if it has any sort of fault - all machines will be tested before upgrading, and if any fault is found the machine will be returned immediately with a refund less £5.00 to cover postage costs.

The 128k RAM in slot 0 is fully available to PipeDream and the Filer. The upgraded machine **does not** behave like an Expanded Machine as defined in the Z88 Developers Notes (ie. one with min.128k in slot 1). You do not get the 40k BASIC etc. unless you also have min.128k in slot 1. See Developers Notes for more details on Expanded Machine.

**Z88 Users' Club, 68 Wellington Street,
Long Eaton, Nottingham. NG10 4NG.**

RANGER

COMPUTERS LTD

Z88 Price List

COMPUTERS

Z88 (Ranger version)	£201.50
Z88 (Int. versions)	£215.95
Rugged Ranger	£299.00

RAM MEMORY

32k RAM Pack	£15.95
128k RAM Pack	£32.95
512k RAM Pack	£87.95
1M RAM Pack	£186.95

EPROM MEMORY

32k EPROM Pack	£16.95
128k EPROM Pack	£23.95
256k EPROM Pack	£57.95
EPROM Eraser	£38.95

Z88 COMMUNICATIONS

RangerLink (25 pin)	£54.00
RangerLink (9 pin)	£54.00
RangerLink Upgrade	£30.00
PC Link II	£27.95
BBC Link	£8.95
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Plastic Case	£6.95
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Hardcase	£495.00

POWER SUPPLY

Mains Adapter (UK)	£8.75
Nicad Battery Pack	£23.00
Nicad Pack + Charger	£37.50

APPLICATIONS SOFTWARE

Spell-Master	£52.00
SqueeZ'88	£44.00
RangerUniverse	£125.00
PC PipeDream (3.5")	£99.00
PC PipeDream (5.25")	£99.00
Vision-100	£175.00
Z-Term	£43.50
z-BASE	£60.00
BJ10e Printer Driver	£20.00

PERIPHERALS

RangerDisk for Z88	£365.00
RangerDisk Mains Ad.	£17.50
RangerDisk PC Driver	£30.00
ADAM A/D Converter	£250.00
Barcode Wand (HP)	£250.00
CCD Scanner	£277.50

PRINTERS

Canon BJ10e	£199.00
BJ10e Sheet Feeder	£55.00
BJ10e Battery Pack	£39.00
BJ10e Ink Cartridge	£19.95
Diconix 150+ (P)	£345.00
Diconix Ink Cartridge	£13.00

BOOKS

Z88 Developers Notes	£40.00
Z88 BBC BASIC	£14.50
Z88 Magic	£14.95
Z88 Dabhand Guide	£14.95
Z88 PipeDream (Dabs)	£14.95
Z88 User Manual (CCL)	£17.00

DELIVERY

Next Day	£12.00
Post UK (Small)	£3.00
Post UK (Medium)	£4.50
Post UK (Large)	£6.00

All prices subject to VAT. Deliveries to export destinations can be made VAT free. Delivery charges include insurance. Next day delivery available to England and Wales. Please enquire for prices to offshore islands and Scotland. Postal service is by First Class Recorded Delivery to UK and BFPO. Please enquire for postal rates to other destinations.

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RangerUniverse

All the most popular Ranger Z88 applications in one 256k ROM!

- **Spell-Master** - 60,000 word English dictionary spelling checker; QuickEdit text editor and WordFinder pop-down which can be accessed from any Z88 application. Full support for User Dictionaries. Load, check and save PipeDream files.
- **RangerLink** - High performance PC communications. Up to 4 times the speed of PC Link II. Transfer whole directories with a single command! The PC Link II programs are also supplied for compatibility with existing files.
- **DiskFiler** - Z88 software for the RangerDisk system. The ultimate Z88 peripheral.
- **Vision/L** - General purpose version of our popular VT-100 terminal emulator, providing a 24-line scrolling screen and file capture - ideal for mailbox applications.
- **Space** - The only application that displays the remaining RAM and EPROM in each Z88 slot
- **EP-Fetch** - Filer-like access to files on EPROM

To order your RangerUniverse, simply send £150.41 (£125.00 + VAT and UK postage) or quote your VISA or Access number with expiry date and card address.

New Z88 Starter Pack

We now have a new Z88 Pack consisting of: **UK Z88, Operations Manual, Mains Adapter, 128k RAM Cartridge, Parallel Cable, Plastic Carrying Case and Batteries.** Priced at just £264.09 (£212.76 + Courier Delivery + VAT) the new pack represents a considerable saving over the individual items when purchased separately. Because of the bulk and weight of this new pack we always recommend our Courier Delivery Service.

We accept official orders from qualifying UK companies and government organisations. All others, cheque or P.O. with order please. Alternatively, you can order by telephone quoting either VISA or Access (Mastercard) number. Next day delivery available on all items, subject to stock, £12.00 in most of UK. Please call for freight costs to Scotland, offshore or overseas.
All prices subject to change without notice. E&OE.

Ranger Computers Ltd
Ranger House
2 Meeting Lane
Duston
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Software Review - Z88COM

by Christian Pearson (4662)

Club Software package Z051 is a communications program by Phil Wheeler of Club Z88 in the USA, to whom our thanks are due. It runs in BASIC and in conjunction with the Terminal ([IV] provides Xmodem file transfer protocol and autodial facility for Hayes compatible modems. There is also an ASCII message send (but not receive) facility. Thus it promises most of the things Z-Term does, plus (a) it's free; and (b) it doesn't need one of your expansion slots.

But is it easy to use? Z-Term is a "plug in and go" package that anyone can follow. Would a non-programmer (who has never entered BASIC except by mistake) be able to use Z051? Does it work well? Are there any problems? Finding I wanted to shift files between the office PC and my Z88, and not having PC-Link, I wondered whether Z88COM might be a cheap and practical alternative.

Z051 comes from Ian Braby as three files (Z051A, B, C) which need to be renamed after fetching from EPROM. Z051B **must** be renamed PHONE.LOG, because Z88COM (alias Z051A) won't work unless it can find it in the current directory. Z051C is a text file giving generally clear instructions. But it does leave out the odd important detail...

First, it doesn't say that Z88COM won't work unless you have at least 128K RAM in Slot 1. This is because it is quite a big program (over 11K) and the unexpanded Z88 has only 8K BASIC workspace. If BASIC reports "Bad Program" when you try to load Z88COM, this is the reason. It caught me out at first, especially as "Bad Program" is **not** one of the error messages listed in the User Manual.

Assuming sufficient memory, you enter BASIC from the index menu, or by [JB], and type

LOAD "Z88COM" (or whatever you've renamed it) [ENTER].

Don't forget the ""! Then type RUN [ENTER]. If all is well, you will see the message

Loading M/L code....

followed by a menu screen:

Z88COM: Z88 Terminal Support, Vers. 2.3

D)ial the Phone (Hayes)

R)eceive with Xmodem

S)end with Xmodem

M)essage Upload (ASCII)

G)o to Terminal

E)xit Z88COM

If not, you will probably see

Channel at line 210

which is BASIC's way of saying there's something missing: you forgot to rename Z051B as PHONE.LOG, which must be present in the current device/directory, even if you won't be autodialling your modem (even if you haven't one!). So rename the program, type RUN [ENTER] again, and all should be well.

The Menu screen is like [X, and requires you to **type** the initial letter, and [ENTER]. If you try to move the cursor over the letter (as I absent-mindedly did), nothing happens. Get that right, and the rest is straightforward. The screen prompts for a filename, and each block of data is recorded as Xmodem sends or receives it.

[By the way, because Xmodem sends data in blocks of 128 bytes (and checks that each is correct before sending the next) it is rather slow but very reliable. Moreover, it pads out the last block of data with null characters to make up the total of 128, so you may have to delete a string of highlighted 3s at the end of files.]

Z88COM warns about bad data, invalid filename, etc, and at the end of data transfer, it closes the file and enters Terminal. Sounds fine?

Well, yes. But there are one or two further snags. First, not strictly a snag, before running Z88COM you must set up the Panel ([I]) with the correct parameters for the modem or other computer you are linked to. This is the right-hand column of the Panel screen.

Baud rate and parity must match the other machine. My old steam modem takes only 300 Bd, but modern ones will usually work at 1200 or faster: generally, the faster the better.

It is essential (as the documentation makes clear) to set Xon/Xoff to No; otherwise Xmodem gets hopelessly lost.

The documentation also states clearly that if you leave the program with a file open: eg through pressing [ESC] for any reason, that file will be marked "in use" by OZ and become inaccessible (and non-deletable) without a soft reset. It's the same problem as arises if you leave Filer **without** pressing [ESC].

What **isn't** mentioned is what happens if the Z88 has not enough free memory to contain an incoming file. The transfer proceeds apparently quite normally, but when you go to Filer: nothing! This can be maddening, especially as OZ is very approximate in its estimate of free memory.

The first time I tried to move a large file, I checked via Pipedream that there was enough free memory; I sat for ages whilst Xmodem clocked up 600-odd blocks of 128 bytes of data. Then - - nothing! I could hardly believe it, but that's what happens: no warning, no data, not even an empty file (though clearly from the warning about files "in use" one must have been opened); just nothing. All you can do is to make sure that the RAM you're loading to has **lots** of free memory (and hope that OZ hasn't grabbed it for RAM.-).

But that is the only real problem I've had with this software. With a public domain Comms program on the PC, and a three-wire cable to the Z88, I've been shunting files to and fro very happily for the past couple of weeks.

All in all, Z88COM is quite easy to use, and well worth trying if you want to transmit or receive data from another computer with or without using a modem.

In another article I will explain how I use Z88COM as a substitute for PC-Link (including how to make a cable which really does work!).

(Thanks to Christian for this interesting contribution. I feel that there is certainly scope for more articles about our Library software - many members have yet to "dip their toe" into this Club service, which is a great shame, for it is you who are missing out. Perhaps if we have a little more written about the various programs in the Library, this will whet members' appetites and encourage them to use the Library. - Roy)

“Michael Hey’s Black Spot”

Well, another year draws to a close and a new one opens: perhaps 1992 will be the year in which my “Guide to the Z88 CLI” will actually make it into print.

I have now written four chapters (out of ten) and all within two weeks during mid November. Then the Christmas Rush (at home and at work) rather awkwardly got in the way. I calculate I could write the whole thing in a week if everyone left me alone to get on with it, which they never do. Insults, threats and feigned diseases have not worked.

The other problem I had was that the first three chapters (written in July 1990) had all disappeared and had to be re-written from scratch.

I know they were saved on to some discs, but after checking the eighty-two in my computer cupboard and not locating them I decided to stop wasting any more time and write them from memory.

This started me thinking: there must be a better way of organising files to make them easier to locate and stop them disappearing altogether.

I have over the years tried several schemes for keeping files. An early method I tried was to produce an enormous number of directories and sub-directories. All my numerous Z88 based activities were allocated to different directories. This was fun to set up at first; I spent a morning playing at being “Super-User”, and setting up directories for finance, BASIC programs, a library directory for keeping Users’ Club Software Library files in, a letters directory (in those days I used to reply to letters), etc., etc., etc..

This was o.k. for a while, but it was a nightmare to back-up. I was using Z-Tape (by Wordmongers) in those days, and Z-Tape can only work on one Z88 directory at a time. I was therefore lumbered with checking all these numerous directories for new files and moving these files hither and thither in an attempt to get them all backed up in one go.

Then there was the problem of file duplication. For example a file may be loaded into BASIC from one directory, and the up-dated copy saved somewhere else. The result was a terrible tangle that took ages to sort out. (I first noticed that all was not well when I found a copy of a BASIC program I was writing in the Accounts directory. "Tut! Tut! How untidy!" I thought. When I found copies in the Letters directory and the Misc/Pending sub-directory I knew that there was something badly wrong.

So I loaded all six versions into PipeDream, and discovered that a week's worth of development had become spread all over my Z88, each with different line numbering, incompatible PROC names, or missing variables. Rationalising the mess and debugging it again took hours.

Finally one day a Hard Reset swept the whole gross structure away, and I decided not to waste time trying to reconstruct it.

Instead I thought I would go for the simple approach and avoid directories completely. So I restored my Z88's files from Z-Tape into one big mess. And mess was the only description.

The Z88's tiny screen will only permit the Filer to display twenty one names at a time, so files near the end would get overlooked for ages. If the Z88 had the facility to display file names in alphabetical order I would have been alright, but there were files that I forgot to look for and they remained unused and unregarded for months.

Then I bought my disc drive. This is the XOB drive (not MS-DOS compatible - I think "head-ache compatible" would best describe it). Actually, I like my XOB drive - most of the time. File names can be up to 23 characters long and contain any characters, including spaces, so you can give your disc files intelligent names, without having to resort to abbreviations and acronyms. (How about TCHTFM.ACC for example; it stands for TSB Current Household Transactions for March.ACCount. Obvious isn't it.)

So I labelled my discs Accounts, BASIC, CLI-Book, CLibrary, Software Library, letters and Misc. (Good old Misc.) So far so good. Then I saved loads of files on to all these discs. Unfortunately it involved an awful lot of disc-swapping. (For example, "Was that letter I was writing saved on the letters disc, or on the misc disc, because it was not finished?")

The other difficulty with the XOB system is that files are not date-stamped, so if you have a letter with a name like "Witty Letter to Brother" how do you remember when it was written. And if you write a second witty letter how do you name that? ("Witty Letter to Brother" is 23 characters long.)

Finally I realised that I was shoving everything in "Misc." anyway, so the elaborate disc system fell into disuse. (I shall never understand how both "CLI Book" discs went missing.)

To get back to the plot....

I then bought a 512k RAM card for my Z88, and decided to adopt a new, improved filing scheme. I created a set of directories called A, B, C, D, E, F, G, H, I and J. This was in a vain attempt to cut down on typing. The plan was to put accounts in A, BASIC programs in B, CLI programs in C, and so on. And Misc. files went in H, because it was left over. When H got crowded I started using D instead. If I wanted to load a BASIC program I could type "LOAD "B/ERIC.BAS" and get 'Missing "' which was much quicker than typing "LOAD "BASIC/LIBRARY/ERIC.BAS" but no less annoying.

Then I put a copy of all files that needed saving to disc in a directory called "Save-these".

Then I had my Z88 up-graded by Roy Woodward (128k in slot 0) which was money well spent, but opened up a whole new arena for losing files in directories. Because I could have several directories with the same names (like "Misc." and "Pending") in :RAM.0 and :RAM.1.

And so by a slow process of elimination and refinement I have finally arrived at the ideal way of organising my files.

I have a directory called "Dec-91". (This is also the "default directory" as set up in the Panel.) I now save everything in Dec-91, and at the end of the month I shall label a couple of discs "Dec-91" and save everything on to them. (I back-up files more regularly in case of unexpected crashes and things, as I hope you all do, too.)

In January 1992 I shall start using a directory called "Jan-92". The beauty of my new system is that I shall know that everything in the "Dec-91" directory has been backed up to disc and can be erased to release space at any time. No more lost files, no more tears.

During January I shall create a new directory called "Feb-92" ready for the forthcoming month.

If I wished to be really economical with my directories I could have two, called "Inst" and "Ult" (i.e. "This month" and "Last month") and rename them at the end of each month. (That would save having to update the default directory at the end of each month, too.)

The second beauty of this system is that everything is so easy to find. Next December when I am about to send my Christmas Cards I shall be able to go to my disc box, take out the "Dec-91" disc, and know that the file "Xmas-Cards" will be there. I shall also know that it is the most up to date version of the list, and not an old one left over from 1990 or some time in the 80's.

Thirdly, this system is economical. Instead of having dozens of part-used discs I save files on to the discs until they are full. The "Jan-92" disc will become the "Jan & Feb -92" disc, and eventually the "Jan-Feb-Mar-92" disc.

As for Z-Tape, my system is ideal: all new files are together in one directory, and can be saved in one batch on to one cassette - ideal for tape archiving!

Any files which never change, and so are not "date-sensitive", can still be saved into permanent directories - Library Software for example.

This method of organising files will not impress everybody, but I write for all of those who are continually mis-laying important information, forgetting to back-up files methodically, and wasting time searching through a jungle of sub-directory trees for a file which you are sure must be in there somewhere.

If there is anyone out there in Z88-land with an **even better** way of organising files, do please write to Roy with the details. Some of us need all the help we can get.

Good bye, everybody.

Happy New Year.

(Or Happy Valentine's Day. Delete as appropriate.)



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Rechargeable Batteries for the Z88

In or out? and How Many?

by Jack Lawrie (4635)

After reading Dennis Groning's contribution (5.6.13) on rechargeables (R for short) I ran some tests.

First, "a la Groning" I ran 4 fully-charged Rs continuously until the screen flashed, at 3.6 volts, after 3 hrs 10 mins. The current increased from 170 milliamps @ 5.3 volts to over 250 milliamps at 3.6 volts, a near-constant power demand. This explained why, later, the 5-cell pack gave much more than a 25% increase in life over 4 cells - the initial current was only 110 m.amps and didn't exceed 130 m.amps for nearly 4 hrs

During my work on batteries I suspected that when using an external R-pack the internal, standby alkaline cells are still being consumed. I set up a test on this, measuring currents and voltages while a Basic program ran continuously.

After 2 1/2 hours the current drawn from the internal alkalines started to rise from a steady 4 m.amps until, after another hour, it was sharing the total load of 140 m.amps! This made me think it would be a good idea to have only 3 cells inside - 4.5 volts is the level at which 5 Rs should be recharged but is comfortably above the 'fail' level of 3.2 volts. Theoretically these three cells should last indefinitely. (You of course need a 'dummy' to take up the space in the battery compartment.)

There is no doubt that when using a 5-cell R-pack you should take it off when BATT LOW shows. At this point, 5 volts, the R-pack voltage is falling like a stone - look at this -

4 hr	40 m	5.5 volts
4	47	5.2
4	49	5.0 - BATT LOW
4	50	4.5 volts - 0.9 volts/cell

At this point there is risk of getting a reversal of one of the cells; not necessarily catastrophic; with a subsequent charge it would probably recover but it is a risk to be avoided.

At this stage I only had 3 alkalines inside. After removing the R-pack I could have continued with these but the current was 210 m.amps! Slipping in the fourth cell brought it back to a normal 130 m.amps.

I conclude that if you use a 5-cell R-pack you need only use 3 alkalines inside **but** have the fourth cell handy. Since the whole idea of using rechargeables is to save on alkalines (and eventually break even on costs) why put four in and have them discharging when the R-pack has only fallen to half of its capacity?

It is not a good idea to use 6 rechargeables in an external pack. If you run it "to the death" you will certainly risk cell reversal. At BATT LOW there is less than 0.9 volts/cell and falling very fast - you could well have a cell reversal and, unless you check them every time you take them off, you won't know it is happening.

If you have a comment or question of general interest on the above I'm sure the Editor would be glad to have it. If for me only please write. The address is 15 Sycamore Grove, Southam, Leamington Spa CV33 0EY - send a S.A.E. please.

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